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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,957	12/18/2001	Nadim I. Maluf	356952000621	8369

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EXAMINER

SICONOLFI, ROBERT

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,957

Applicant(s)

MALUF ET AL.

Examiner

Robert A. Siconolfi

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The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-80 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Declaration filed on 8/7/02 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaassen et al in view of Gschwendtner et al (U. S. Patent no. 5,400,824).

It appears to the examiner that the claims of this case are nearly identical to the claims of the parent case 09/148,026. The only significant difference the examiner has noticed is the change from a generic micromechanical device to a micromechanical valve.

Therefore, the examiner has repeated the rejection of the previously finally rejected claims with the addition of another reference to address the change in scope to a valve.

Klaassen discloses in figure 5(a) a displaceable structure (perpendicular beam), with first and second members (heated beams). Klaassen discloses in figure 5(b) a plurality of ribs as actuators and a member (middle beam). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the actuator setup of figure 5(a) with figure 5(b) in order to achieve greater displacement with less power consumption than is capable with either setup alone. The actuator setup of figure

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5(b) produces a moderate amount of displacement at minimal power while the actuator setup of figure 5(a) produces a larger displacement at a higher power requirement. The setup of 5(a) only requires a minimal amount of displacement due to the motion is gained from the lever action (For example if the perpendicular beam is 100 μm long and the tip travels 45 μm and the actuator is 20 μm above the pivot point then the actuator beam only has to move 9 μm assuming a fixed pivot and only one actuator) . The setup of 5(b) produces more than sufficient amount of motion.

Klaassen, as modified, does not disclose the micromechanical device as a valve.


Gschwendtner teaches a swing arm micromechanical actuator as a microvalve (see figures 3 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the micromechanical device of Klaassen, as modified, as a valve as taught by Gschwendtner et al because Klaassen, as modified, provides a power efficient, quick responding, compact actuator that meets the ideal limitations of ABS valves.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Siconolfi whose telephone number is 703-305-0580. The examiner can normally be reached on M-F 10 am-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Robert A. Siconolfi
Examiner
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RS